

REMARKS

Claims 19, 22-29, and 32-38 are pending. A clean copy of the claims as amended herein is attached for the convenience of the examiner.

In responding to the Examiner's prior art rejections, Applicant here only justifies the patentability of the independent claims. As the Examiner will appreciate, should these independent claims be patentable over the prior art, narrower dependent claims would also necessarily be patentable. Accordingly, Applicant does not separately discuss the patentability of the dependent claims, although it reserves the right to do so at a later time if necessary.

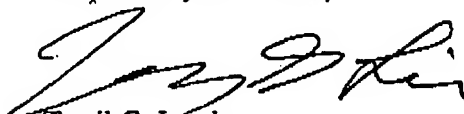
Independent claims 19 and 29 were rejected as anticipated by USP 6,086,677 ("Umotoy"). Other claims were rejected as obvious in light of Umotoy in combination with USP 5,683,517 ("Shan"), or USP 5,853,484 ("Jeong").

Independent claims 19 and 29 have been amended to recite that the first and second lines respectively meet with first and second "*piezoelectric*" flow regulators proximate to each of the first or second holes for controlling the flow of the first or second source chemicals to the chamber. Neither Umotoy, Shan, nor Jeong disclose the use of piezoelectric flow regulators. Therefore, even when taken in combination, no combination of these references can render obvious what Applicant is now claiming. See MPEP § 2143. Support for this new limitation can be found in paragraph 32 of the application, for example.

It is therefore submitted that the pending claims are patentable over the cited references.

Should the Examiner have any question regarding this submission, please contact the undersigned.

Respectfully submitted,



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Convenience Copy of Pending Claims with Amendments Incorporated

19. (currently amended) A gas delivery system for a deposition chamber, comprising:
a first line coupleable to a first source chemical, wherein the first line communicates with a plurality of first holes in communication with the chamber;
first piezoelectric flow regulators proximate to each of the first holes for controlling the flow of the first source chemical to the chamber;
a second line coupleable to a second source chemical, wherein the second line communicates with a plurality of second holes in communication with the chamber; and
second piezoelectric flow regulators proximate to each of the second holes for controlling the flow of the second source chemical to the chamber.
20. (canceled)
21. (canceled)
22. (currently amended) The gas delivery system of claim 19, further comprising a shower head for housing the first and second flow regulators devices and the first and second lines.
23. (previously presented) The gas delivery system of claim 19, wherein the first and second holes are located in an area on the chamber, and wherein the first and second holes are evenly distributed about the area.
24. (previously presented) The gas delivery system of claim 23, further comprising a shower head, and wherein the area is located on the shower head.

25. (previously presented) The gas delivery system of claim 19, wherein either the first or second flow regulators are capable of vaporizing either the first or second source chemicals.
26. (previously presented) The gas delivery system of claim 19, further comprising a controller coupled to the first and second flow regulators for controlling the flow of the first and second source chemicals to the chamber.
27. (previously presented) The gas delivery system of claim 26, wherein the controller is capable of controlling each of the first and second flow regulators independently.
28. (previously presented) The gas delivery system of claim 26, wherein the controller is capable of controlling the first flow regulators in unison, and is capable of controlling the second flow regulators in unison.
29. (currently amended) A deposition system, comprising:
a deposition chamber containing a support for holding a substrate onto which a film is to be deposited;
a first source chemical coupled by a first line to a plurality of first holes in communication with the chamber;
first piezoelectric flow regulators proximate to each of the first holes for controlling the flow of the first source chemical to the chamber;
a second source chemical coupled by a second line to a plurality of second holes in communication with the chamber; and
second piezoelectric flow regulators proximate to each of the second holes for controlling the flow of the second source chemical to the chamber.
30. (canceled)

31. (canceled)

32. (currently amended) The deposition system of claim 29, further comprising a shower head for housing the first and second flow regulators devices and the first and second lines.

33. (currently amended) The deposition system of claim 29, wherein the first and second holes are located in an area on the chamber, and wherein the first and second holes are evenly distributed about the area.

34. (previously presented) The deposition system of claim 33, further comprising a shower head, and wherein the area is located on the shower head.

35. (currently amended) The deposition system of claim 29, wherein either the first or second flow regulators are capable of vaporizing either the first or second source chemicals.

36. (currently amended) The deposition system of claim 29, further comprising a controller coupled to the first and second flow regulators for controlling the flow of the first and second source chemicals to the chamber.

37. (previously presented) The deposition system of claim 36, wherein the controller is capable of controlling each of the first and second flow regulators independently.

38. (previously presented) The deposition system of claim 36, wherein the controller is capable of controlling the first flow regulators in unison, and is capable of controlling the second flow regulators in unison.

39-64. (canceled)